

Brains On (APM) | Brains On! What does the giraffe say? Our animal mystery sound extravaganza!
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DAKARI: You're listening to *Brains On*, where we're serious about being curious.

VIOLET: *Brains On* is supported in part by a grant from the National Science Foundation.

[CROAKS]

DEER: Hey, Frog. Hi, Thomper. I want to chomp that grass next to you.

FROG: Hi, Deer. Sure thing. Thanks for asking first and not stepping on me. Again.

DEER: You're welcome.

[CAWS]

[COUGHS]

CROW: Oh, excuse me. I had a worm in the throat. What's up, my ani pals?

DEER: Hey, Crow.

FROG: Hey, Crow. Hiya!

CROW: Oh, just being fabulous and shiny and black, thanks for asking.

FROG: We didn't ask anything.

CROW: Speaking of me, I just came from a flight. And guess what I saw? A group of human persons camping in our woods. Did you see them?

FROG: How could you miss them? Ugh, humans are so noisy.

DEER: I like how they sound?

CROW: What? Their cawing is atrocious. They'll never attract a mate with those busted pipes.

FROG: Oh, I know. It's like, are you even trying to ribbit?

DEER: I think their sounds are beautiful. It's like a babbling brook, the wind through the leaves.

CROW: If the wind sounded like, hi, I'm Todd, and I have toes.

FROG: No, it's more like, ranch dressing. I like ranch dressing.

CROW: No, no, no. Humans sound like this. My phone. My phone. Has anyone seen my phone?

[LAUGHS]

DEER: Y'all are way off.

CROW: Oh, you think you can do better?

DEER: Sure can.

[CLEARS THROAT]

Would you like a spot of tea? I happen to have some on the stove.

[LAUGHS]

FROG: Are you serious? That was terrible. What even was that?

DEER: Whatever. I think I sound like them.

[MUSIC PLAYING]

MOLLY BLOOM: You're listening to *Brains On* American Public Media. I'm Molly Bloom, and my co-hosts today are Isidro and Itzel from Portland, Oregon. Hi.

ISIDRO AND Hi!

ITZEL:

MOLLY BLOOM: Today's episode was inspired by this question.

BARNABAS: My name is Barnabas.

WALLACE: And I'm Wallace.

BARNABAS: And we're from Boise, Idaho. Our question is, what sounds do giraffes make?

MOLLY BLOOM: This is a great question. So Isidro, Itzel, what sound would you guess drafts make? Let's start with you, Isidro.

ISIDRO: I would say something kind of like a horse, but a little bit high-pitched. So like--

[SQUEAKS]

[LAUGHS]

MOLLY BLOOM: And Itzel, what do you think a giraffe would sound like?

ITZEL: I think it's sounds like a sort of snorting.

ISIDRO: Oh yeah, snorting.

ITZEL: So like--

[SNORTS]

[LAUGHS]

MOLLY BLOOM: I like your giraffe impressions very much. Yeah, it's a really tricky question, because this is not an animal sound that we sing in Old MacDonald or one that we learn to do impressions of when we're small. Like your parents are like, what does the dog say? We don't know that. So what is your favorite animal sound to do an impression of?

ISIDRO: I think I would say a cat.

MOLLY BLOOM: Can I hear your cat impression?

[MEOWS]

Oh, that was really good. Itzel, what's yours?

ITZEL: Well, I think my favorite animal impression to make would probably be a horse, because I'm not too good at it but it's still really fun.

MOLLY BLOOM: Can I hear it?

[NEIGHS]

[LAUGHS]

Yeah, it's a work in progress. I like it. I'll check back with you in a year and see how it's progressed. My favorite is a prairie dog. They stand on their hind legs and go like--

[CHIRPS]

It's really, really adorable. I love them. But anyway, let's go back to that giraffe sound. The sound a giraffe makes was actually a mystery until very recently. A group of scientists from the Mammal Communication Lab at the University of Vienna, Austria, set out to see if giraffes made a sound. Up until then, humans had observed giraffes making snorting sounds. So Itzel, you're right. They do make snorting sounds.

But they had never observed them making any sound with their vocal cords. So do you know what vocal cords are, Isidro, Itzel?

ITZEL: Yeah.

ISIDRO: Yeah the things that flap to make different pitches.

MOLLY BLOOM: Right, exactly. So yeah, they're the folds of muscle tissue that are in our airways. And they vibrate together to make sound. So we have them. Lots of other mammals and reptiles and amphibians have them, too. And the giraffe has them. But people thought that they didn't really use them. That is until these researchers recorded giraffes at three different zoos for over 900 hours. They analyzed all those hours of recordings and found that giraffes did use their vocal cords. And when they did, it sounded like this.

[LOW RUMBLING SOUND]

[LOW RUMBLING SOUND]

ITZEL: Whoa.

MOLLY BLOOM: That is a kind of unexpected sound.

ITZEL: Yeah.

ISIDRO: It sounded like an alien.

ITZEL: Yeah, it sounds like the bad guy from a movie. Like--

[GRUNTS]

ISIDRO: Yeah.

MOLLY BLOOM: Totally. So if you heard that sound, what would be your thought about why or when the giraffe was making that sound?

ISIDRO: If I heard that sound out of nowhere, I wouldn't think, oh, that's a giraffe. My instinct would be to run, I bet. But yeah, I cannot see a giraffe making that sound.

ITZEL: I think what a giraffe would be doing while making that sound is probably, I don't know, getting ready to whack other giraffes with its head.

ISIDRO: Yeah.

ITZEL: I don't know, like, roar.

[LAUGHS]

MOLLY BLOOM: So it turns out that giraffes make this humming sound only at night. So that's why humans hadn't heard it before. So the researchers are not exactly sure why. But one idea is that giraffes have really good vision, so they don't need to make sounds to see where the other members of their herd are during the day. But at night, these humming sounds may be useful to let other members of the herd know that they're still there. But again, that's just an idea, and we need more research to fully understand why they hum at night.

[LOW RUMBLING SOUND]

[LOW RUMBLING SOUND]

So we thought the best way to celebrate the solving of this animal sound mystery is to do a whole episode of animal mystery sounds. Isidro, Itzel, are your ears ready to identify some animal mystery sounds?

ITZEL: Yes.

ISIDRO: Yes, definitely.

ITZEL: Yes.

MOLLY BLOOM: Wonderful. OK, we're going to do a speed round of some easier animal sounds as a warm-up. Your ears ready?
They're on? Ready to hear some sounds?

ITZEL: Yeah.

ISIDRO: Yeah, they're on.

ITZEL: Yeah, they're on.

MOLLY BLOOM: All right, here is the first mystery sound.

[MOOING]

OK, what is your guess?

ITZEL: I think it's definitely some sort of farm animal, I'm pretty sure. But it might be a cow. But it sort of sounds electric.

MOLLY BLOOM: Interesting. Isidro?

ISIDRO: Yeah, I'm going along the cow lines. I'm going to say a cow and maybe the calf. Because I heard some higher squeaking noises.

MOLLY BLOOM: You are correct with your first guess. It is a cow. All right, you ready for the next one?

ISIDRO: Yeah.

MOLLY BLOOM: All right, here it is.

[BARKS]

[BARKS]

Guesses? Itzel, what do you think?

ITZEL: A dog that someone owns. Maybe a little dog, like a corgi. Something like that.

MOLLY BLOOM: Interesting. OK, Isidro?

ISIDRO: I'm not really sure what type of dog, but I definitely know it's a house dog.

MOLLY BLOOM: You are correct. It is a dog barking. And I don't know what breed of dog it is. I like how you guys tried to get specific. But we definitely know it is a dog. All right, here is the next one.

[WHINNYING]

What do you think, Isidro?

ISIDRO: I got to say that's a horse.

MOLLY BLOOM: Itzel?

ITZEL: I'm 100% sure that is definitely a horse.

MOLLY BLOOM: Well, you are correct, again. Very good ears. OK, last animal mystery sound in our speed round. Here it is.

[ROOSTER CROWS]

What are your thoughts?

ISIDRO: Rooster.

ITZEL: Yeah, I got to say that's a rooster.

ISIDRO: The rooster from the movies in the morning.

ITZEL: Yeah. Every farm movie you could think of.

[LAUGHS]

MOLLY BLOOM: You got it. You're right. It is in lots of movies. That is a sound that is very familiar to many of us. All right, you did really well. You got them all right. But now we're going to play some more under the radar animal sounds that are a little bit trickier. Let's start with this one.

[SQUEAKING]

All right.

ITZEL: OK, so I actually think I know what this is. I think it's an armadillo eating. Because I listened to *Smash Boom Best*, and it's about armadillos and porcupines. And I heard that noise. So I think it might actually be an armadillo. Or a pig.

MOLLY BLOOM: Or a pig. One of two.

ISIDRO: I'm thinking some kind of monkey. Maybe some rodent.

MOLLY BLOOM: OK, we're going to hear it again. So think about it one more time.

[SQUEAKING]

OK, any new thoughts that are different from when you heard it last time?

ITZEL: I guess, I mean, I already said a pig, but maybe a little baby pig drinking milk. Maybe a goat? Drinking milk.

[LAUGHS]

MOLLY BLOOM: Some milk's involved. But hey, you're pretty consistent that it's eating something.

ITZEL: Yeah. Also I think it might still be an armadillo. It could be a porcupine, though.

MOLLY BLOOM: Isidro, what do you think?

ISIDRO: I think I'm going to stick with my other guess. Something like a monkey. But I could see, yeah, like a rodent, like a mouse, or like a porcupine or hedgehog.

MOLLY BLOOM: Very good guesses. Here is the answer.

JESSIE COLTRANE: I That was the sound of a porcupine.

MOLLY BLOOM: Nice work! Really good memory, Itzel. That was a sound that we did play in Porcupines Versus Armadillos. Very impressive.

ITZEL: We may have listened to a lot of *Smash Boom Best* in the car ride.

MOLLY BLOOM: Wonderful. It prepared you well for today.

ITZEL: It did.

MOLLY BLOOM: So that was the North American porcupine eating a pumpkin. So you got that right, too. It was eating. And that was recorded by Allison Blankenship of Zooniversity. And in my opinion, that is one of the cutest animal noises.

ISIDRO: Definitely.

MOLLY BLOOM: Yeah. Jessie Coltrane revealed the answer. She's a wildlife biologist from the Montana Fish, Wildlife, and Parks. And she studies porcupines.

JESSIE COLTRANE: So porcupines are really vocal. A lot of people don't realize this. But they make a wide variety of vocalizations. Typically when you hear porcupines vocalizing, it's usually because they're angry. And so whether they're having an interaction with another porcupine or they're frightened or disturbed by something. And their angry porcupine noises are kind of like--

[MOCK PORCUPINE NOISES]

They get really aggressive with it. I am notorious for making angry porcupine sounds at my husband. If he's annoying me in any way. He usually gets the--

[MOCK PORCUPINE NOISE]

So it's a really good noise that you could make to your parents or something when you don't want to do something. You just want to be left alone. Just--

[MOCK PORCUPINE NOISE]

Get away. But I've heard many happy porcupine noises, too. And that usually happens when they're eating and they mumble and hum to themselves. Like--

[MUMBLING]

Like they're talking to themselves. They really enjoy it. So I mean, if you're having a great dinner or your favorite ice cream, there is absolutely no reason why you can't make happy porcupine noises while you're eating. Because you could do that with your mouth closed, so it's completely appropriate.

MOLLY BLOOM: So the sound you heard was actually a combination of both the angry and the happy sounds. Because the porcupine was making happy sounds because they were eating. But then Teddy Bear was also not happy because someone was nearby him while he was eating. So he was angry and happy at the same time. Do you guys want to do a little porcupine impression for us?

ISIDRO: OK.

ITZEL: All right, ready?

[MOCK PORCUPINE NOISE]

MOLLY BLOOM: Oh, that was good.

[LAUGHS]

[PORCUPINE NOISES]

Here is the next sound.

[SQUEALING]

[CHIRPING]

ITZEL: I think I heard some birds. At first, I thought it might be just the animal squealing. But then at the end, it switched to a different sound. But yeah, I'm going to go with some baby birds in their nest.

ISIDRO: So it could be two of my guesses. I'm going to say either going with Itzel's idea of birds. Or I think it could be a rodent again.

MOLLY BLOOM: OK. Rodent or birds. Let's hear it one more time and see if anything else pops in your head.

[SQUEALING]

[CHIRPING]

Any new thoughts?

ITZEL: So I think maybe at the start, there might even be a predator nearby trying to eat the baby birds.

MOLLY BLOOM: Isidro, what do you think?

ISIDRO: I'm thinking it could be a hamster that someone was closing the cage of the hamster. And the hamster wasn't too happy about that. And I heard some rustling and then the hamster got quieter. So I'm thinking maybe there's a blanket on the hamster or something.

ITZEL: I think actually it also could be a bunny.

MOLLY BLOOM: I like your guesses. They're very detailed. OK, the answer is, that's a cheetah.

ISIDRO: What? How's that a cheetah?

MOLLY BLOOM: Yeah. Cheetahs actually can't roar like other big cats. And that is the sound that they can make. They make a cute little chirping sound.

ITZEL: Cute!

[LAUGHS]

ISIDRO: I had no idea cheetah could make that sound.

AUDIO TRACK: Brains On. On. On.

MOLLY BLOOM: All right, here is the next sound.

[LOW GRUMBLING]

ITZEL: I think I heard a lion. But it was like really low growling. And I think I heard some water also. Maybe it was raining. But I think it was in a zoo. I heard some birds in the background. Could be a big cat walking around near the birds.

ISIDRO: I'm picturing a swamp kind of scene. So there's a crocodile or something and maybe a hippo. It could also just be like that puddle of water where all the animals go to drink.

MOLLY BLOOM: OK. So we both agree there's water involved. Let's hear it again and see if anything else sticks out to you.

[LOW GRUMBLING]

Any new things you heard?

ITZEL: I think now actually that I hear it again, it seems too low for a lion and starts out too weird. So I think maybe, I mean, it could be a hippo. Or like a rhinoceros.

MOLLY BLOOM: What do you think, Isidro?

ISIDRO: I'm going to stick with my same guess from earlier. Something swampy.

MOLLY BLOOM: All right. Well here is the answer.

MICHELLE The sound you just heard was a pod of vocalizing humpback whales in Southeast Alaska.

HORNETT:

MOLLY BLOOM: So you guys were right, there was water.

ISIDRO: Yeah. I could definitely see that being a humpback whale.

MOLLY BLOOM: Here's a little more about that sound.

MICHELLE My name is Michelle Hornett. I am a marine biologist that studies what whales talk about. Whales produce
HORNETT: basically three different types of sounds. They produce songs.

[GROAN]

Which are produced only by mature male whales. So no female whales, no young whales, no old whales. Just mature males. They produce percussive sounds, which is the sound of a whale jumping out of the water and belly flopping back down, or slapping its pectoral fin against the surface of the ocean. And then they also make calls.

[GRUMBLE]

Which is what we were just listening to, which are all of the other vocalizations that whales make. That was a group of whales, a pod of whales. So there were lots of individuals calling at the same time. But there is one sound in that recording that sounds a little bit like a soprano singing opera. She goes--

[VOCALIZES]

[DISTANT WHALE CALLING]

That sound is a feeding call. And it is very, very closely coupled with hearing in Pacific herring, which is a small fish. And so when humpback whales are using that sound, they're actually using it to move the fish around. So they'll herd fish by producing that sound, which scares the fish a little bit. The fish will gather up in a really tight ball. And the whales will go underneath and sing that sound to them, pushing them towards the surface of the water, which makes it a little bit easier for them to capture and eat their meal.

So that sound is very specifically used when humpback whales in Southeast Alaska are feeding on herring. The other sounds that we heard--

[GROUPED WHALE SOUNDS]

We don't actually know what they're for yet. We're still working on figuring that part out.

MOLLY BLOOM: Michelle spends her days listening to whales. But we wanted to see if she could identify another aquatic mystery sound sent in by one of our listeners. So here's the sound that we played for Michelle to guess.

[BUBBLING]

MICHELLE So I think what I hear is a fish tank. Maybe either a fish that's swimming around or a shrimp or a crab that's
HORNETT: moving rocks. But it definitely sounds like something underwater. So I'm going to go with a fish tank.

MOLLY BLOOM: OK, so Michelle thought it was a fish tank. Isidro, Itzel, do you have any other guesses?

ITZEL: I think it's krill or something. I've heard of cleaning shrimp. They clean other fishes. And they get helped out by-- because they eat the stuff that is on the fish, and the fish gets clean. So I'm thinking maybe it's that process.

MOLLY BLOOM: Very cool.

ISIDRO: My idea was a crab. Maybe it was on the sand, but then it was crawling slowly into the water and digging.

MOLLY BLOOM: All right. Very good guesses. We are going to be back with the answer right after this.

[MUSIC PLAYING]

We're working on an episode about trash and what happens to it. And we want to hear from you. We'd love to hear the creative ways you reuse stuff instead of throwing it away. So Isidro, Itzel, do you have any potential trash that you end up reusing instead?

ISIDRO: I've been planning on making this bottle cap tree. But I haven't gotten around to it yet. It would be like each bottle cap would just be a certain line. And it'd be like as if you're drawing with bottle caps.

MOLLY BLOOM: Cool.

ISIDRO: A while back I made an umbrella out of a plastic container and a toilet paper roll. It's a mini umbrella, you know. Couldn't really cover your head.

MOLLY BLOOM: Maybe you can give that to your friend the porcupine.

ISIDRO: Yeah.

MOLLY BLOOM: Well listeners, we want to hear from you. Whatever you're reusing, we want to hear about it.

ISIDRO: Send it to us at brainson.org/contact.

MOLLY BLOOM: And while you're there, you can send us mystery sounds, drawings, and questions.

ISIDRO: Like this one.

UMA: Hi, my name is Uma from Chicago, Illinois. My question is, why do daddy long-legs have super long legs?

MOLLY BLOOM: We'll be back with an answer to that during our Moment of Um. And we'll read the most recent list of names to be added to the Brains Honor Roll, all at the end of the show.

ISIDRO AND So keep listening.

ITZEL:

ISIDRO: You're listening to *Brains On* from American Public Media. I'm Isidro.

ITZEL: And I'm Itzel.

MOLLY BLOOM: And here is that mystery sound again.

[BUBBLING]

OK. So our whale scientist friend Michelle thought that it was a fish tank. You guys thought also it was something near the surface. Maybe something eating as well. Do you have any new thoughts?

ISIDRO: No, I'm going to stick with my idea. I think--

MOLLY BLOOM: OK.

ISIDRO: That's as close as I'm going to get. I feel like the crab is running away from something sort of like hopping around really quickly. But I still think it's a crab.

ITZEL: I think that crab idea is pretty good. I'm going to keep with that krill/shrimp idea. I don't know.

MOLLY BLOOM: All right. Well here's the answer.

AISYAH: My name is Aisyah from Sacramento, California. The sound you just heard was carp eating from the surface of a pond. I go there to my grandma's and we feed them fish food when we visit her. I think it sounds like water boiling. Hope you like it.

ITZEL: OK.

ISIDRO: Yeah.

MOLLY BLOOM: Yeah, so it was near the surface. There were bubbles. They were eating.

ITZEL: Are carp a type of fish?

MOLLY BLOOM: Carp are a type of fish, yeah.

[BUBBLING]

[VOCALIZING]

AUDIO TRACK: Brains On.

MOLLY BLOOM: OK, here is our next sound.

[QUIVERING NOISE]

What are your guesses?

ISIDRO: I absolutely have no idea what that sound is.

ITZEL: Some sort of animal.

MOLLY BLOOM: Yes, it is an animal.

ITZEL: Yeah. If this wasn't an animal themed mystery sound extravaganza, I would say that's some kind of radar. But yeah, I just have no idea what animal could make that sound.

ISIDRO: Yeah, I feel like--

MOLLY BLOOM: It's a stumper.

ISIDRO: Maybe it's a teeny animal. But then again, it could also be a giant animal.

ITZEL: Maybe a bird.

ISIDRO: Yeah, I guess it could be a bird.

MOLLY BLOOM: OK. Yeah, let's hear it again.

[QUIVERING NOISE]

ITZEL: Yeah. I'm thinking a bird.

ISIDRO: Now I actually don't think a bird. I think I'm going with my first guess. I don't know.

ITZEL: I'm thinking a bird that lives close to water. Yeah. It just sounds like it has one of those big beaks that like-- that big lump.

MOLLY BLOOM: Oh, like a pelican.

ITZEL: Yeah. Yeah, a pelican or a seagull or something.

MOLLY BLOOM: OK. I like it. Here is the answer.

RODNEY ROUNTREE: That was the sound of the striped sea robin. And that particular sound was of a very angry sea robin, because I had just picked him up. And so he was telling me that he wasn't very happy about being picked up.

MOLLY BLOOM: OK, so even though it's called a striped sea robin, a striped sea robin is not a bird. It's a fish.

ITZEL: Oh, wow. I was like, hey, I got it right. I said a bird. But no, it's a--

MOLLY BLOOM: It's a fish.

ITZEL: Wow, I didn't know a fish could make that noise.

ISIDRO: Yeah.

MOLLY BLOOM: Right? Is that surprising?

ITZEL: I would never have guessed a fish.

MOLLY BLOOM: I know. Yeah, so that fish lives in the Atlantic Ocean. And it has big fins that look like wings almost. That's why it's called a sea robin. So I never thought fish could make sounds like that either. Besides those eating sounds that we heard the carp make. Until I talked to Rodney Rountree.

RODNEY ROUNTREE: AKA, the Fish Listener. And I'm an ichthyologist, which means I study fish. And one of my specialties is working with fish sounds. That is the sounds that fish make.

MOLLY BLOOM: So yes, Rodney recorded that sound of the sea robin we just heard. And he's recorded hundreds of other fish, like a moaning salmon.

[GURGLES]

A barking piranha.

[UNDERWATER BARKING]

And a grunting catfish.

[GROWLING]

Now, these fish don't have vocal cords like we do. They use something else to make their sounds.

RODNEY That's called a gas bladder or swim bladder. It's used for lots of purposes. But one purpose is for some fish is it helps them make sounds. So like a drum.

MOLLY BLOOM: So right now, scientists know of about a thousand different kinds of fish that make sounds. But there's probably way more than that. So why do we think of fish as being quiet?

RODNEY What happens is in underwater sounds is the surface of the water acts like a mirror. And it reflects the sound. So oftentimes, fish might be very noisy underwater. You don't hear them because you're above the water.

MOLLY BLOOM: So there's this whole world hidden from us because the water reflects the noise. So Rodney uses a hydrophone to record the sounds. It's a microphone made to record things underwater. But he says if you want to hear the noisy world under the water, you just need a tube of some kind, like a bucket with a hole in the bottom, or even a rolled up piece of birch bark.

You stick it in the water and listen at the top of the tube. And you'll hear all the underwater sounds. So if you happen to be in the bottom of a boat, you'll also hear those noises.

RODNEY And this is very common. Sailors that sail in boats, when they're down in the hull of the boat or sleeping, they hear the fish sounds through the walls. And this is the way many legends happened in the old days of monsters and stuff because they would hear all these sounds coming through. They didn't know what it was. And even recently when I discovered the sounds the [INAUDIBLE] make--

[GUTTURAL SOUND]

--sailors from Block Island contacted me I said, oh, that's what I've been hearing all these years. We thought it was some monster. And it was a little fish that was making all that racket.

[GUTTURAL SOUND]

MOLLY BLOOM: OK, an interesting case of mistaken sea monsters. What will the next animal mystery sound have in store? Well, Isidro and Itzel, you're going to find out right now.

[SQUEALING]

What are your thoughts?

ISIDRO: A bird. A bird, and I think the sound is vibrating off walls. Also, it's extremely loud-- or extremely high pitched. It's not too loud, but it's really high pitched. And I was surprised.

ITZEL: I'm going to think they're those annoying birds that wake you up at 5:00 in the morning when you're camping. I think it's one of those. Yeah.

MOLLY BLOOM: Yeah. I don't appreciate that. Why can't they let us sleep a little bit longer? All right, let's hear it again and see if anything new pops out to you.

[SQUEALING]

ITZEL: I'm thinking it's definitely not in a zoo or a nature exhibit. I think it's in a rainforest.

ISIDRO: I'm going to say it's definitely a bird. Because birds can make all kinds of crazy sounds. And so I think that's a bird. Small one.

MOLLY BLOOM: All right. You ready for the answer?

ISIDRO: Yeah.

MOLLY BLOOM: Here's the answer.

DENA CLINK: The sound you just heard was a tarsier. Well, actually there are two tarsiers there. It was a male and a female that were singing along together.

MOLLY BLOOM: So a tarsier is not a bird, but a tiny primate.

ITZEL: Oh, it's like a little monkey?

MOLLY BLOOM: Like a monkey. Yeah.

ITZEL: Oh, that's so cute.

[LAUGHS]

MOLLY BLOOM: Yeah, so it's a tiny, very adorable primate. They are known for their enormous eyes. So like if a lemur, and a monkey had a small wide-eyed toddler.

ISIDRO: How big are they?

MOLLY BLOOM: They're small. They're very small. So maybe that's why that sound is so high pitched.

ISIDRO: Yeah.

MOLLY BLOOM: Well here with more knowledge on tarsier sounds is Dr. Dena Clink.

DENA CLINK: A tarsier is a non-human primate. So that means that they're actually quite closely related to us as humans. And they are found in Southeast Asia. They are found in the Philippines, on the island of Borneo, and then also on the island of Sulawesi. And so Sulawesi is where I recorded the sound and where I did my data collection. And there's something really interesting about the tarsiers that are found on Sulawesi.

And that is that they sing. And so the tarsier in the other parts of Southeast Asia, they do not sing. And they're also solitary, so they tend to live alone. Whereas the ones on Sulawesi, they live in these male/female pairs. They also tend to engage in these duets or these coordinated vocalizations between males and females. But sometimes they also have their offspring singing along. And in that case, we would call it a chorus.

ITZEL: Wow.

MOLLY BLOOM: So singing little primates.

ITZEL: I can imagine them in a band together.

[VOCALIZING]

MOLLY BLOOM: I would love that. Well, we asked Dena to see if she could identify a different mystery sound. So here's a listener mystery sound that we played for her.

[CAWING]

ISIDRO: Well, considering the last sound I heard, I think it's also a monkey. Just because it sounds like the last sound. Repetitive squealing. But a bit lower.

MOLLY BLOOM: Yeah, here's what Dena's guess was.

[LAUGHS]

DENA CLINK: It does sound like it could be many different things. The thing it reminds me of is some of the hornbills that we have in Southeast Asia. But--

[LAUGHS]

MOLLY BLOOM: OK, so just like you she thought it was a bird the first time around. But you're thinking maybe a monkey this time.

ITZEL: I would say if I just heard that first, I would say a bird. But since the last sound was a primate and you're asking Dena, then I'm going to say it might be a primate. But I'm still going to stay with the bird.

ISIDRO: Yeah, I think primate, bird. Apparently they sound similar.

MOLLY BLOOM: They do. They really do. Let's hear it one more time.

[CAWING]

ISIDRO: Oh. Wait, wait, wait, wait. I have an idea. Duck. I mean, I know that's a bird, but--

MOLLY BLOOM: But yeah, specific.

ISIDRO: A duck. Because I heard water.

MOLLY BLOOM: OK. We're still a bird relative. Some kind of bird.

ISIDRO: Bird or monkey.

ITZEL: Just a monkey, because apparently they sound alike.

MOLLY BLOOM: All right. Well here is the answer.

SOPHIA: My name is Sophia from Reno, Nevada. The sound you just heard was our llama's alert call. Llamas make an alert call when they sense danger. Our family has had him for six years, but he's older than that, because he was a rescue. His name is Rama Lama Ding Dong, but we just call him Rama. He makes other sounds, too. But they are very quiet.

MOLLY BLOOM: A llama.

ISIDRO: Wait, a llama?

MOLLY BLOOM: Yeah.

ISIDRO: How could that be a llama?

ITZEL: Oh, it's so--

ISIDRO: I had no idea so many of these animals made such cute noises.

AUDIO TRACK: Brains, Brains, Brains On.

MOLLY BLOOM: All right, well we have one final mystery sound. Here it is.

[LOW RUMBLING]

[LOW RUMBLING]

[GROANS]

[LOW RUMBLING]

ISIDRO: That roaring actually sounded a lot like that mystery sound that I thought was a lion. So--

MOLLY BLOOM: And it ended up being a whale.

ISIDRO: Yeah.

ITZEL: I'm going with the lion, but there was some kind of high pitch at the very end. But I think it's going to be some larger animal.

MOLLY BLOOM: OK I'm going to play the sound for you again, but first, I'm actually going to play you a hint that's also a sound. So here's the hint.

[ELEPHANT TRUMPETS]

OK, now listen to the mystery sound with that in mind.

[LOW RUMBLING]

[LOW RUMBLING]

[GROANS]

[LOW RUMBLING]

OK.

ITZEL: I mean I couldn't exactly imagine an elephant making that noise. But I think this is an episode of crazy animal sounds. So I'm just going to go with an elephant, because--

ISIDRO: I'm going to say it could either be a predator that could be a threat to elephants or an elephant snoring.

ITZEL: I think actually Isidro might be right. An elephant snoring would be also extremely cute.

MOLLY BLOOM: Cute little elephant snoring. All right, well let's hear the answer.

DANIELA The sound that we just heard is a rumble vocalization of the African forest elephant. And we call them rumbles
HEDWIG: because that's how they sound and also feel. Because when you're close to an elephant that is producing a rumble, you can really feel the vibration in your body.

Hi. I'm Daniela Hedwig. I'm a scientist who studies the vocal communication of forest elephants. A rumble vocalization is the characteristic type of vocalizations that forest elephants and also their better known cousin, the Savannah elephants, are using to coordinate social interactions within their social group and also between their social group.

ITZEL: Wow.

MOLLY BLOOM: OK.

ISIDRO: I still cannot hear that as an elephant.

ITZEL: I know. It was a forest elephant, not the Savannah elephant.

ISIDRO: That's still an elephant.

ITZEL: Yeah.

MOLLY BLOOM: Yeah. Elephants make a lot of different kinds of sounds. So not all of them are the ones that we're familiar with, because they're a little quieter and they use--

ISIDRO: Yeah.

MOLLY BLOOM: A lot. It's pretty cool.

[MUSIC PLAYING]

So you made it through all of our animal mystery sounds. Which was the most surprising to you?

ISIDRO: Porcupine. Even though I guessed, I still love the porcupine. Well I don't know if that was the most surprising. But it was the most cute.

ITZEL: I would say the cheetah. It was definitely surprising.

ISIDRO: Oh yeah. Yeah, the cheetah was definitely surprising. I think also the-- the whale? I mean, I could see that as a whale, but still, it's just really cool that they can make that noise. And oh, wait, wait, wait, wait. No, I know which one. The little fish. The little fish. That one was just--

MOLLY BLOOM: Yeah.

ISIDRO: Yeah, that was amazing.

ITZEL: Yeah.

MOLLY BLOOM: Well, you did a really amazing job guessing all of these really tricky and under-the-radar mystery sounds. So good ears, you two.

ISIDRO: Thank you.

[MUSIC PLAYING]

ISIDRO: That's it for this episode of *Brains On*.

ITZEL: Brains on is produced by Marc Sanchez, Sanden Totten, Menaka Wilhelm, and Molly Bloom.

MOLLY BLOOM: We had production help from Christina Lopez and Ruby Guthrie, and our intern is Kun Song Dorjee. We had engineering help from Veronica Rodriguez and Tristan Schmonk. And special thanks to Laurel Symes, the K. Lisa Yang Center for Conservation Bioacoustics, the National Park Service, Glacier Bay National Park, Matthew Wersvickey, and the Toronto Zoo.

ISIDRO: *Brains On* is a nonprofit public radio program.

ITZEL: You can help us keep making new episodes by heading to brainson.org/fans.

MOLLY BLOOM: There, you can donate, join our free fan club, or check out our merch.

ISIDRO: There are t-shirts, sweatshirts, face masks, and the fabulous *Brains On* book. That's brainson.org/fans. Now before we go it's time for our Moment of--

ISIDRO AND Um.

ITZEL:

AUDIO TRACK: Uh. Um. Um. Um. Um. Um. Um.

UMA: Why do daddy long-legs have super long legs?

GI: That's also a question that I'm very interested on. And it's the first question I thought about when I first saw daddy long-legs.

[MUSIC PLAYING]

My name is Gi, and I am a graduate student at the University of Wisconsin Madison. And I study daddy long legs and their legs. So we think that daddy longlegs have long legs for a couple of reasons. One of the main reasons is that it really gives them a leg up to into moving better and faster in the forest. Because the legs are giant, so imagine, each step, you go much harder.

Besides being so long, the tips of their legs are also able to coil around twigs and branches, just like a monkey's tail. And on top of that, the legs are also very important for them to sense the world. And the tips of their legs, they can taste and they can smell and they can sense temperature. So it's just like as if they had hundreds of small noses and tongues at the tips of those legs.

One of their superpowers as well is that the legs, when a predator tries to bite one leg, they can voluntarily drop this leg and the leg will keep moving while the daddy long-legs runs away safely. So the legs are also very important for protection. Unfortunately for the daddy long-legs, they are not able to regrow the legs that they lose. But don't worry, they can still live a happy life with their remaining legs.

AUDIO TRACK: Um. Um. Um.

MOLLY BLOOM: We have a super long list of names to read today. It's the Brains Honor Roll. These are the incredible listeners who send us their questions, ideas, mystery sounds, drawings, and high fives.

[LISTING HONOR ROLL]

AUDIO TRACK: Brains Honor Roll. High fives.

ISIDRO: We'll be back soon with more answers to your questions.

ITZEL: Thanks for listening.